

WORLD INTELLECTUAL PROPERTY ORGANIZATION International Bureau



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

A1

US

(51) International Patent Classification 6: B05D 3/02, 3/00, 1/18, C08J 3/28, 51/00,

(11) International Publication Number:

WO 99/19083

C23C 22/00, 22/07

(43) International Publication Date:

22 April 1999 (22.04.99)

(21) International Application Number:

PCT/US98/20933

(22) International Filing Date:

13 October 1998 (13.10.98)

(81) Designated States: BR, CA, JP, MX, US, European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).

(30) Priority Data:

60/062,095

14 October 1997 (14.10.97)

Published

With international search report.

(71) Applicant (for all designated States except US): HENKEL CORPORATION [US/US]; Suite 200, 2500 Renaissance Boulevard, Gulph Mills, PA 19406 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): GOODREAU, Bruce, H. [US/US]; 11455 35 Mile Road, Romeo, MI 48065 (US). PRESCOTT, Thomas, J. [US/US]; 1601 Brentwood, Troy, MI 48098 (US).

(74) Agent: WISDOM, Norvell, E.; Henkel Corporation, Suite 200, 2500 Renaissance Boulevard, Gulph Mills, PA 19406 (US).

(54) Title: COMPOSITION AND PROCESS FOR MULTI-PURPOSE TREATMENT OF METAL SURFACES

(57) Abstract

A multipurpose treatment composition for metal surfaces comprises phosphate ions, fluorometallate ions, water soluble polymers containing substituted aminomethylene moieties bonded to benzene rings which also have an oxygen atom bonded to another carbon atom in the same ring, and a distinct kind of film-forming polymer. The compositions are free from chromium and other heavy metals that cause serious pollution problems in some prior art treatment compositions. Coating layers formed in a process according to the invention are effective for at least three different purposes: increasing adhesion of and corrosion protection from subsequently applied paints or other protective coatings with a largely organic matrix; without any subsequently applied protective coating, providing at least temporary protection against staining and development of white rust on zinc or zinc alloy surfaces treated in a process according to the invention, and providing sufficient lubricity to permit roll forming of sheet metals treated in a process according to the invention without the need for additional liquid lubricants such as oil.

FOR THE PURPOSES OF INFORMATION ONLY

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

		_	-				••
AL	Albania	ES	Spain	LS	Lesotho	SI	Slovenia
AM	Armenia	FI	Finland	LT	Lithuania	SK	Slovakia
ΑT	Austria	FR	France	LU	Luxembourg	SN	Senegal
ΑŪ	Australia	GA	Gabon	LV	Latvia	SZ	Swaziland
ΑZ	Azerbaijan	GB	United Kingdom	MC	Monaco	TD	Chad
BA	Bosnia and Herzegovina	GE	Georgia	MD	Republic of Moldova	TG	Togo
BB	Barbados	GH	Ghana	MG	Madagascar	TJ	Tajikistan
BE	Belgium	GN	Guinea	MK	The former Yugoslav	TM	Turkmenistan
BF	Burkina Faso	GR	Greece		Republic of Macedonia	TR	Turkey
BG	Bulgaria	HU	Hungary	ML	Mali	TT	Trinidad and Tobago
BJ	Benin	ΙE	Ireland	MN	Mongolia	UA	Ukraine
BR	Brazil	IL	Israel	MR	Mauritania	UG	Uganda
BY	Belarus	IS	Iceland	MW	Malawi	US	United States of America
CA	Canada	IT	Italy	MX	Mexico	UZ	Uzbekistan
CF	Central African Republic	JP	Japan	NE	Niger	VN	Viet Nam
CG	Congo	KE	Kenya	NL	Netherlands	YU	Yugoslavia
CH	Switzerland	KG	Kyrgyzstan	NO	Norway	zw	Zimbabwe
Cī	Côte d'Ivoire	KP	Democratic People's	NZ	New Zealand		
CM	Cameroon		Republic of Korea	PL	Poland		
CN	China	KR	Republic of Korea	PT	Portugal		
CU	Cuba	KZ	Kazakstan	RO	Romania		
CZ	Czech Republic	LC	Saint Lucia	RU	Russian Federation		
DE	Germany	LI	Liechtenstein	SD	Sudan		
DK	Denmark	LK	Sri Lanka	SE	Sweden		
EE	Estonia	LR	Liberia	SG			
					Singapore		